AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for determining an axle geometry by recording and evaluating a single graylevel image or a single color~~topographical~~ image of a face of a wheel fitted to an axle, the method comprising:

projecting light, which is spread over ~~an area with a coding spread over the area onto the face of the wheel~~the face to be evaluated, wherein a coding is projected with the light, from a projecting direction;

recording ~~the~~ light reflected from the face of the wheel with an opto-electronic image converter as a ~~topographical~~single graylevel image or a single color image, from a direction other than the light projecting direction;

determining three-dimensional surface coordinates ~~for the topographical image of the face of the wheel from the recorded light~~of at least substantially the entire face to be evaluated from said single graylevel image or said single color image using triangulation; and

evaluating ~~the~~ said single graylevel image or said single color ~~topographical~~ image in relation to a reference system.

2. (original): A method according to claim 1, wherein the coding comprises striated patterns with varying periodicity or monochrome lattice structures.

3. (original): A method according to claim 1, wherein the coding comprises a color coding.

4. (original): A method according to claim 1, wherein a video camera is used as the image converter.

5. (canceled):

6. (currently amended): A method according to claim 1, wherein ~~the~~ said single graylevel image or said single color ~~topographical~~ image includes the entire face of the wheel.

7. (currently amended): A method according to claim 1, wherein said~~the~~ single graylevel image or said single color~~topographical~~ image is embodied in the form of a ring and includes a face of a tire cover.

8. (currently amended): A method according to claim 1, wherein said~~the~~ single graylevel image or said single color ~~topographical~~ image includes at least one partial area of a face of a tire cover to be detected.

9. (original): A method according to claim 1, wherein several images of a rotating wheel are recorded.

10. (original): A method according to claim 9, wherein the wheel carries out at least one full rotation to determine a reference plane.

11. (original): A method according to claim 1, wherein a normal vector of the wheel is used for determining the axle geometry.

12. (original): A method according to claim 1, wherein at least one of the camber of the wheel and the track of the wheel is determined via a normal vector of the wheel.

13. (original): A method according to claim 1, wherein in addition to determining the axle geometry, further properties of at least one of the wheel, a rim, and a tire cover are determined.

14. (original): A method according to claim 1, wherein in addition to determining the axle geometry, further properties of vehicle body areas adjoining the wheel are determined.

15. (original): A method according to claim 14, wherein the further properties of vehicle body areas comprise a position of the wheel arch edge.

16. (currently amended): A method according to claim 1, wherein in addition to said~~the~~ single graylevel image or said single color ~~topographical~~ image of the face of the wheel, color variants of the face of the wheel are detected.

17. (original): A method according to claim 1, wherein the reference system is a coordinate system of a vehicle.

18. (original): A method according to claim 1, wherein the image converter is a charge-coupled device or a complementary metal-oxide semiconductor color camera.

19. (currently amended): A sensor for determining an axle geometry by recording and evaluating a ~~topographical~~ single graylevel image or single color image of a face of a wheel fitted to an axle, the sensor comprising:

a light projection unit which projects light, ~~-~~which is spread over ~~an area with a coding spread over the area onto the face of the wheel~~the face to be evaluated, wherein a coding is projected with the light, from a projecting direction;

an opto-electronic image converter which records ~~the~~ light reflected from the face of the wheel as a ~~topographical~~ single graylevel image or a single color image, from a direction other than the projecting direction; and

an evaluation unit which determines three-dimensional surface coordinates ~~for the topographical image of the face of the wheel~~of at least substantially the entire face to be evaluated from said single graylevel image or said single color image using triangulation, and which determines an axle geometry.

20. (original): A sensor according to claim 19, wherein the light projection unit projects light with a coding comprising striated patterns with varying periodicity, or monochrome lattice structures.

21. (original): A sensor according to claim 19, wherein the light projection unit projects light with a coding comprising color coding.

22. (original): A sensor according to claim 19, wherein the image converter comprises a video camera.

23. (canceled):

24. (original): A sensor according to claim 19, wherein the evaluation unit determines at least one of the camber of the wheel and the track of the wheel via a normal vector of the wheel.

25. (original): A sensor according to claim 19, wherein the evaluation unit, in addition to determining the axle geometry, determines further properties of at least one of the wheel, a rim, and a tire cover.

26. (original): A sensor according to claim 19, wherein the evaluation unit, in addition to determining the axle geometry, determines further properties of vehicle body areas adjoining the wheel.

27. (original): A sensor according to claim 26, wherein the further properties of vehicle body areas comprise a position of the wheel arch edge.

28. (original): A sensor according to claim 19, wherein the evaluation unit also detects color variants of the face of the wheel.

29. (currently amended): A sensor according to claim 19, wherein the evaluation unit evaluates the three-dimensional surface coordinates for said~~the~~ single graylevel image or said single color ~~topographical~~ image of the face of the wheel in relation to a reference system.

30. (original): A sensor according to claim 29, wherein the reference system is a coordinate system of a vehicle.

31. (currently amended): A sensor according to claim 19, wherein the sensor determines an axle geometry by recording and evaluating a single graylevel image or single color~~topographical~~ image of a face of a rotating wheel fitted to an axle.

32. (original): A sensor according to claim 19, wherein the image converter is a charge-coupled device or a complementary metal-oxide semiconductor color camera.

33. (canceled):

34. (canceled):

35. (currently amended): A method according to claim 1, wherein the projected light is spread over at least a million measurement points at a given instant in time during a measurement.

36. (currently amended): A sensor according to claim 19, wherein the light projection unit projects light over at least a million measurement points at a given instant in time during a measurement.